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The company carries out continuous and in-depth research with vendors and users in the industry. Our staff analyze and interpret the complex and voluminous data derived from this research, based on the presented concisely and our recommendations and access to the company's extensive database. This information is useful for establishing and maintaining relations.

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CUSTOM	Y-SUN WH
AUTHOR	
Distribution: Petro Ind.	
TITLE	

OFFICES

UNITED STATES

2180 Sand Hill Road
Suite 320
Menlo Park, CA 94025
(415) 854-3422

15 Bond Street
Great Neck, NY 11021
(516) 482-4170

JAPAN

Overseas Data Service Company, Ltd.
Shugetsu Building, No. 12-7 Kita Aoyama
3-Chome Minato-Ku
Tokyo, 107
Japan
(03) 400-7090

EUROPE

67A High Street
Sutton SM1 1DT
England

X

SUNTECH, INC. SUPPLEMENTAL REPORT ON
WHOLESALE DISTRIBUTION IN PETROLEUM
AND PETROCHEMICAL INDUSTRIES

JUNE, 1977

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I. INTRODUCTION

I INTRODUCTION

- This report is the product of a custom add-on to INPUT's Market Analysis Service (MAS) report on the wholesale distribution industry, commissioned by Suntech, Inc., in March, 1977.

- This report examines the petroleum and petrochemical industries in particular and analyzes the Automated Order Entry activities of twenty of the largest firms in the industry segments, as well as interviews with eleven vendors who are, or who were thought possibly to be, vendors of computer services to these industry segments.

- Suntech provided a minimum preferred list of four petroleum firms, two petrochemical firms and six vendors to be interviewed. The complete list of interviews is given in Exhibit I-1. Those names marked with an asterisk (*) were provided by Suntech, Inc.

- Two special questionnaires, one for users and one for vendors, were prepared by INPUT and approved by Suntech, Inc., prior to commencement of these interviews.

- Copies of these questionnaires are included in the Appendix.

EXHIBIT I-1

TELEPHONE INTERVIEWS CONDUCTED FOR THIS REPORT

PETROLEUM FIRMS (100 SERIES OF INTERVIEWS)	PETRO CHEMICAL FIRMS (200 SERIES OF INTERVIEWS)	COMPUTER SERVICES VENDORS
1. *ASHLAND OIL	BASF/WYANDOTTE CORPORATION	*ADP
2. ATLANTIC RICHFIELD	BORDEN CHEMICAL	BRANDON APPLIED SYSTEMS
3. *CHEVRON (STD. OF CALIF.)	*DOW CHEMICAL	*CDC/SBC
4. *DIAMOND SHAMROCK OIL & GAS CO.	ETHYL CORPORATION	DISTRIBUTION SCIENCES, INC.
5. EXXON, U.S.A.	*HERCULES, INC.	*GENERAL ELECTRIC I.S.
6. GULF OIL	MONSANTO COMPANY	*ITEL
7. PHILLIPS PETROLEUM COMPANY	QUAKER STATE	*KEYDATA
8. STANDARD OIL OF INDIANA	UNION CARBIDE	McAUTO
9. STANDARD OIL OF OHIO	UNIROYAL CHEMICAL	RAPIDATA
10. UNION OIL OF CALIFORNIA	UNIVERSAL OIL PRODUCTS	*TYMSHARE
11. **SHELL OIL		XEROX COMPUTING SYSTEMS

*IDENTIFIED BY SUNTECH, INC. TO BE INTERVIEWED.

**--IDENTIFIED BY SUNTECH, INC. AND DECLINED INTERVIEW

- Further general data regarding EDP activities related to petroleum and petrochemical firms is included in INPUT's Market Analysis Service report on wholesale distribution, which Suntech, Inc. also receives.

II. SUMMARY AND RECOMMENDATIONS

II SUMMARY AND RECOMMENDATIONS

A. SUMMARY

- A wholesale distribution service catering to the very large petroleum and petrochemical firms in the U.S. does not seem to be a desired, or a desirable business for a computing services vendor. The only apparent market illuminated by this supplemental survey is for specialized software products and data bases.
- The main reason for the above statement is that the firms we have addressed all have large and capable EDP installations and resources. They also have policy positions which support doing as much EDP development and processing in-house as is economically and practically feasible.
- Thus, software products and esoteric data bases may be attractive to such firms because of the time and expense required to develop and maintain them in house.
- Only three vendors seem to have been successful with Order Entry related products:
 - Brandon Applied Systems (San Francisco) has perhaps

five or six petro clients for its CIDS (Comprehensive Industry Distribution System), world-wide, with growth opportunities mainly in the Far East. CIDS was developed in 1972 by IBM, supported by about fifteen major companies. CIDS reverted to Standard Oil, and Brandon has had marketing rights since 1974.

- Keydata and Trans-Com market specialized OE packages.

- A few other companies have been successful in highly specialized data bases such as PETROEX, rate and route data, and railroad car maintenance data. These would be relatively small revenue producers for a large services vendor like Suntech.
- The degree of automation of Order Entry (OE) systems is surprisingly low, with petrochemical firms being more advanced than the petroleum firms interviewed.
- Cost of processing an order is generally unknown. Four estimates range from about a dollar for data center costs to \$20-\$25 fully accounted cost.
- Most OE automation is highly centralized, having been developed in the late 1960s and early 1970s, before distributed processing was viable. Remote services are virtually excluded from consideration. Cost trade-off analyses are non-existent, or, when performed, not significant.
- Attitudes regarding distributed processing are mixed. About half those interviewed have some on-going involvement with remote minis in their wholesale activities. Petrochemical firms have a higher degree of

involvement than petroleum firms, and have also expressed some disappointment and pessimism regarding the future. However, on balance, the future is seen optimistically for distributed minis.

- Two firms indicated a need for a satellite communications network, for overseas integration. Other than that, most existing networks seem to be adequate. Vendors expect some higher speeds for graphics and data base transmission and increased use of value added networks for cost reduction.

- Vendors are unanimous in their opinion that a services vendor in wholesale distribution should specialize by industry.

B. RECOMMENDATIONS

- The market for Automated Order Entry (AOE) services seems to be mainly in software products to be sold overseas, where very large companies are involved. The U.S. market appears saturated and dedicated to in-house development. Hence, Suntech should not pursue the product and client market covered by this supplemental study.

- If Suntech wishes to pursue the AOE business, the following questions need to be asked. Affirmative answers would suggest further market studies:

- Is Suntech interested in servicing the Middle East with an AOE software package and installation training and support? If so, acquisition of a firm like Brandon Applied Systems should

be considered, as opposed to internally developing a product. Alternatives would be a joint venture with Brandon, or acquisition of overseas marketing rights to a desired software product.

- Is Suntech interested in providing remote computing services in the U.S.? If so, smaller petroleum and petrochemical firms which don't have large EDP centers should be interviewed, in a manner similar to this study, to determine the potential market there.

● At this time, INPUT's experience with several petroleum industry-related studies indicates a high potential for EDP software packages, services and training and installation revenues to be derived from the Middle East OPEC nations.

● Regarding communications requirements for servicing overseas operations (perhaps only as an interim to setting up in-house systems there), satellite communications should be considered. In general, the GE network would be the best model of an international communications capability in existence today. GE is clearly the favorite among multi-national corporations interviewed by INPUT in recent years.

III. USER INTERVIEWS

III USER INTERVIEWS

A. INTRODUCTION

● There are great similarities between petroleum companies and petrochemical firms. The similarities result not so much from the product lines involved, but from the nature of the firms themselves. Both have:

- Widespread geographic (national as well as international) markets.
- Numerous autonomous divisions and products which have varying degrees of involvement with the centralized corporate DP center.
- Very large and capable DP equipment and staff resources, with corporate policy commitments to do as much EDP work "in-house" as is possible, with long-range goals of doing it all in-house.
- Many systems were developed in-house prior to anything commercial being available (early 1970s).

B. USE OF AUTOMATED ORDER ENTRY (AOE) SYSTEMS

- Virtually no computer services are used. Firms want to do it all in-house.
- Petrochemical firms have progressed further with the development and use of in-house AOE systems than have petroleum firms, as shown in Exhibit III-1.
 - 90% of petrochemicals interviewed are fully automated, and 10% are partially automated;
 - in petroleum, 30% are fully automated, 50% are partially automated and 20% are manual.
- Petrochemical firms have more divisions, each handling one or more specific product lines. In most cases, the divisions may be using different systems - some automated, some not. Frequently the effort to integrate divisions which had earlier (sometimes before acquisition) developed their own AOE is seen to be too expensive, and so multiple systems co-exist within a single large corporation.

C. IMPLEMENTATION OF AOE SYSTEMS

- As shown in Exhibit III-2, some petrochemical firms are using mini computers and petroleum companies are not yet.
 - Of the four using minis, two also use outside services.One of them uses Keydata software and mainframes to update

EXHIBIT III-1

USE OF AUTOMATED ORDER ENTRY (OE) SYSTEMS

INTERVIEW NUMBER	USE OF AUTOMATED OE			ALL PRODUCTS?		COMMENTS
	YES	NO	PARTIAL	YES	NO	
101			X		X	JUST BEGINNING TO DEVELOP
102	X			X		
104		X				
105			X		X	PACKAGED PRODUCTS ONLY
106		X				
107			X		X	
108			X		X	MAJOR SITES ONLY; MAINLY LIQUID PRODUCTS
110	X			X		
111			X		X	
112	X			X		BULK TERMINAL INVOICE IS AUTOMATED
TOTALS PETROLEUM	3	2	5			
201	X			X		
202	X			X		SOME SUBSIDIARIES NOT USING THE SYSTEM YET
204	X				X	
205	X				X	
208	X				X	DIFFERENT DIVISIONS VARY IN USE AND DEGREE OF AUTOMATION
						ONLY CHEMICAL AND PLASTICS DIVISIONS

(continued on next page)

EXHIBIT III-1, cont'd.

USE OF AUTOMATED ORDER ENTRY (OE) SYSTEMS

INTERVIEW NUMBER	USE OF AUTOMATED OE			ALL PRODUCTS?		COMMENTS
	YES	NO	PARTIAL	YES	NO	
209	X					50% OF PRODUCTS NOW AUTOMATED. SOON TO BE 100%. PLASTICS DIVISION ONLY VARIES IN 26 DIVISIONS
210					X	
211	X				X	
212			X	X		
213	X			X		
TOTAL PETRO - CHEMICAL	9	0	1			

EXHIBIT III-2

SYSTEM IMPLEMENTATION

(NUMBER OF RESPONSES)

INDUSTRY	MAINFRAME ONLY	MAINFRAME PLUS TERMINALS	MAINFRAME PLUS MINIS	OUTSIDE SERVICES	TOTAL
PETROLEUM	1	5	0	0	6
PETROCHEMICALS	2	6	4	2	14
TOTAL	3	11	4	2	20

inventory via GE Terminet system; the others use Trans-Com (Pittsburgh) leased OE software.

- Of the four using minis, only one appears to be truly on-line. The others have varying degrees of manual data entry, batch and remote batch processing and/or daily updating of files.

- Terminal systems do not necessarily imply automation of order processing. At least six systems using terminals also have a central order entry group which receives TTY, facsimile, or CRT terminal input from a sales office, and then has responsibility for entering the order into the computer.

- Sometimes the terminals are automatically polled by the computer on a daily remote-batch basis. In one case, a paper tape is prepared and retransmitted to a CPU at night.

- All "mainframe only" systems have central order groups which receive verbal orders by phone and enter them into the CPU.

- In many cases, the process is not completely automated and manual entry of pricing, routing and freight rates is done, as described below, in Exhibit III-3.

- Exhibit III-4 shows that inventory management and financial systems are integrated into the AOE system 50% of the time. This generally results from the AOE being developed at a different time and by a different organization, compared with the usually already existing financial systems, where

EXHIBIT III-3

METHOD OF ENTRY OF FREIGHT RATES, ROUTES, AND PRICING DATA
(NUMBER OF RESPONSES FROM AOE USERS)

ITEM	METHOD OF ENTRY		
	DATA BASE	MANUAL	BOTH REQUIRED IN ONE SYSTEM
FREIGHT RATES	7	6	2
ROUTES	6	7	1
BASE PRICES, DISCOUNTS, AND TAXES	11	2	1

EXHIBIT III-4

HOW DOES AOE SYSTEM INTERFACE WITH OTHER SYSTEMS?

(NUMBER OF RESPONSES)

SYSTEM	INTEGRATED	REMOTE BATCH OR BATCH	MANUAL
GENERAL LEDGER AND ACCOUNTS RECEIVABLE	7	8	0
INVENTORY	8	5	2

a daily remote batch operation is quite satisfactory to interconnect the two systems.

- Freight rate and routing information tends to be entered as much by hand as by automatic data base. Petroleum companies tend more toward manual entry, while petrochemicals systems are two-thirds automated via data bases.

- The data base information is entered manually one time for each new customer. Some systems have the option of overriding the "usual" rate and route data on-line, for any given order - others have a 24-hour delay due to batch updating.

- Because rate and route data is easily overridden, there is no problem with users requesting special routing for any given order.

- Product pricing, volume discounts and taxes are predominantly data base functions, manually entered the first time a new product and/or a new customer is added.

- Both automatic and manual operations sometimes co-exist in one system or one company due to different products, or divisions, or geographic locations using the same basic system with different input variations.

- Rate and route data bases are commercially available from Numerax and Distribution Sciences, Inc. (Chicago).

D. COST ISSUES ARE NOT THE DECIDING FACTOR

● As can be seen in Exhibit III-5, only about one-third of the firms interviewed performed a cost analysis on AOE systems. Of these, one-third again made their decision based on the cost analysis. Thus, it is clear that cost is not a major issue in determining the method of automation. The desire to keep the work in-house is very important, and distributed processing wasn't viable five or more years ago.

- Reasons given for choosing the method being used include:
- Distributed processing was not viable at the time. Choice was made on the basis of all requirements; manufacturing, scheduling, forecasting, ability to share information.
 - There weren't any commercial packages available at the time (1967).
 - Don't ordinarily look outside unless we can't do it ourselves.
 - Transmission costs too high to consider distributed processing. CPU was loaded, and we didn't have capacity or experience for real time system.
 - Management policy since 1957 has been to support everything in-house.
 - The system was there when we acquired the company.
 - Project started five years ago. Distributed network would not have been considered then. Project too large and

RESPONSES TO COST QUESTIONS

(NUMBER OF RESPONSES)

"DID YOU DO A COST BENEFIT ANALYSIS OF USING A MAINFRAME VS. A DISTRIBUTED NETWORK, VS. AN OUTSIDE SERVICE?"

<u>INDUSTRY</u>	<u>YES</u>	<u>NO</u>	<u>DON'T KNOW</u>	<u>TOTAL</u>
PETROLEUM	2	3	2	7
PETROCHEMICAL	<u>4</u>	<u>6</u>	<u>0</u>	<u>10</u>
TOTAL	6	9	2	17

IF ANSWER TO ABOVE IS YES, "WAS YOUR CHOICE MADE ON THE BASIS OF THAT COST ANALYSIS?"

<u>INDUSTRY</u>	<u>YES</u>	<u>NO</u>	<u>PARTIALLY</u>	<u>TOTAL</u>
PETROLEUM	0	0	2	2
PETROCHEMICAL	<u>2</u>	<u>1</u>	<u>1</u>	<u>4</u>
TOTAL	2	1	3	6

too important to go to a service bureau.

- Decision based on availability and independence. Cost was a toss-up.

- Backed into OE from a very sophisticated accounting system which already existed.

- Only four respondents would venture an estimate (none had hard data) on the cost of a single order processed: the two lowest figures are data center costs only.

- "For a stripped labor version, \$25;"

- "Used to cost \$3.42 on IBM (central CPU) system; now costs \$0.72 on DEC (distributed) system."

- "About \$20"

- "Slightly over \$1.00 per invoice, including labor, on the average. For some low volume products, may go as high as \$5.00."

- Not all EDP activities actually charge the user for OE expenses, regardless of the mode of processing, whether manual or automated.

- Among petroleum companies,

- . six charge back an allocation based on total resources used;

- . two do not charge back at all as a function of use;

- . two only charge back certain costs, such as

- execution time only;
- invoicing costs only.
- Among petrochemical firms, all but one firm charges back to recover actual total resource costs. The other one uses an algorithm based on computer time.
- No EDP function charges according to transaction pricing.

E. ATTITUDES ABOUT MINI COMPUTERS AND DISTRIBUTED PROCESSING

- Attitudes are mixed, as can be seen in Exhibit III-6.
 - Among the petroleum companies, the three which are currently involved are also the three with current positive attitudes and three of the four with future optimism. The remaining six interviewees are not involved, or not sure.
 - Among the petrochemical companies, there is a higher rate of involvement (six users) and a more noticeable pessimism which generally relates to the idea that minis are for smaller firms, not for very large companies with extensive central EDP facilities.
- Comments from users with positive attitudes include:
 - "Distributed is the only way to go, considering user availability."
 - "Convinced minis are the way to go - distributed processing in particular."

EXHIBIT III-6

ATTITUDES ABOUT MINIS AND DISTRIBUTED PROCESSING

(NUMBER OF COMMENTS)

INDUSTRY	CURRENTLY INVOLVED	POSITIVE NOW	NEGATIVE NOW	OPTIMISTIC FUTURE	PESSIMISTIC FUTURE	NOT SURE	NOT INVOLVED
PETROLEUM	3	3	0	4	0	4	2
PETROCHEMICAL	6	4	4	4	2	2	1
TOTAL	<u>9</u>	<u>7</u>	<u>4</u>	<u>8</u>	<u>2</u>	<u>6</u>	<u>3</u>

- "Improving integrity of data transmitted to central computing center."

• Comments from users with negative attitudes include:

- "For communications, it's a fine tool. Trouble occurs in transmitting data back to minis from central.

Too expensive, hard to minimize amount of data sent.

Inquiry would be better."

- "Battery division uses distributed minis and can't ship from multiple warehouses. Probably won't want to get into that problem at chemical division."

- "Everybody is heralding distributed processing. It is probably five-ten years away for most people, particularly in the oil business, which is not at the forward edge."

F. CURRENT AND FUTURE NETWORK REQUIREMENTS

• 90% of the petrochemical firms, and 60% of the petroleum firms currently use in-house networks (usually leased phone lines) for whole-sale activities, as shown in Exhibit III-7.

• Of the four having current requirements for a commercial network, one is using GE Terminet to access a software vendor's computer; one is using a phone company backup; and two are wanting satellite communications for their international activities. These are the same two having future (satellite) requirements.

EXHIBIT III-7

CURRENT AND FUTURE NETWORK REQUIREMENTS

(NUMBER OF RESPONSES)

INDUSTRY	CURRENT COMPANY NETWORK IN USE FOR WHOLESALE?	CURRENT REQUIREMENT FOR COMMERCIAL DATA NETWORK?	FUTURE REQUIREMENT FOR COMMERCIAL DATA NETWORK?	WHEN? (# OF YEARS)
PETROLEUM	6	1	0	N/A
PETROCHEMICAL	9	3	2	ASAP
TOTAL	<u>15</u>	<u>4</u>	<u>2</u>	

- Again, petrochemical firms seem to be out in front of the petroleum firms.

G. ATTITUDES TOWARD COMPUTER SERVICES VENDORS

- In general, these very large firms see no value to themselves, or to other firms their size, of any offerings of computer services vendors. Again, they want to do "it" themselves. Services vendors are seen as probably valuable to smaller, independent companies.

- In some cases, where vendors can provide specialized data base software products and services, they can be of value. Firms prefer to run vendors' software in-house. Some examples include:

- GE offers the PETROEX product data base on its network.
- AAR Services, Inc. (Tulsa) provides data on repair costs and repair histories of railroad cars (\$100 per update, and \$2 per 1000 records).
- Numerax and DSI provide route and rate data bases.
- Trans-Com (Pittsburgh) markets a specialized OE system, used by one respondent (\$15,000 plus use fees).
- Two respondents use outside inventory control services, because of the great expense involved in developing such an on-line system in-house.
- Other vendors and their products are described in the following section.

H. THE IDEAL SYSTEM

- In describing their opinions of the ideal order entry system of the future, users agree on fully automated, fully integrated systems, operated on line, and able to operate independently of the CPU for some period (say 24 hours) in case of CPU or communications failures.
- Strangely, in spite of wide deviations from these ideals, most users also consider their own systems to be the best there is today.
- Comments from users who do not consider their system to be the best available include their ideal system of the future, and,
 - "Systems are pretty much all the same."
 - "There must be a better way. They want the cheapest way. Facsimile is a problem, and so are telephone lines. Don't know anyone who has solved the problems."

IV. VENDOR INTERVIEWS

IV VENDOR INTERVIEWS

A. INTRODUCTION

- The vendors interviewed for this supplemental report are listed in Exhibit I-1.
- Two supplemental questions were asked of these vendors, in addition to the standard INPUT vendor questions asked for the Marketing Analysis Service (MAS) report on wholesale distribution, which Suntech, Inc. will also receive.
- The two supplemental questions, which responses are summarized in this section, were:
 - 1. Do you believe that a wholesale distribution services vendor should specialize by industry segment?
 - 2. What do you believe will be the network requirements of the future for this industry (wholesale distribution)?

B. SPECIALIZATION UNANIMOUSLY SUPPORTED

● Exhibit IV-1 summarizes the responses to the first question and also indicates which vendors consider themselves to be suppliers of service to the petroleum/petrochemical industry, as well as to the three other industry sectors covered by the MAS interviews. Thus, the four industries inquired about include:

- Petroleum/petrochemical
- Electrical/electronic
- Food
- Alcoholic beverages

● All vendors agree that a wholesale distribution services vendor should specialize by industry segment. Some comments include:

- Software needs to be modified for each industry; cannot be "dropped in."
- Separate distribution services from manufacturing services.
- Consider specialization by function, e.g. financial, inventory management, depending on vendor size. Smaller vendors (\$3-5 million per year) may be more suitable for functionally specialized product.
- Specialization brings with it a better understanding of the product, the client's business and the market.

● Responses to the question on future network requirements were

EXHIBIT IV-1

INDUSTRY SECTORS SERVED, AND VENDOR OPINION ON INDUSTRY SPECIALIZATIONS

VENDOR	WHICH INDUSTRIES SERVED*				SHOULD WHOLESALE DISTRIBUTION SERVICES VENDOR SPECIALIZE BY INDUSTRY?	
	P/P	E/E	F	A.B.	YES	NO
1. ADP	X	X			X	
2. BRANDON	X				X	
3. CDC/SBC	X				X	
4. DISTRIBUTION SCIENCES, INC.	X		X		X	
5. GEIS	X				X	
6. ITEL	X	X	X	X	X	
7. KEYDATA	X	X	X	X	X	
8. McAUTO	X				X	
9. RAPIDATA			X		X	
10. TYMSHARE	X				X	
11. XCS		X			X	

P/P = PETROLEUM/PETROCHEMICAL
 E/E = ELECTRICAL/ELECTRONIC
 F = FOOD
 A.B. = ALCHOLIC BEVERAGES

generally subjective and non-technical. The trends toward Value Added Networks (VANs) and Distributed Processing are frequently expressed.

Particular comments include:

- Higher line speeds for graphics, plotting and data base exchange.
 - Distributed processing, with no special network requirements.
 - In 5-10 years, Value Added Networks will be more in demand, for cost savings.
 - More private networks will develop.
 - Audio response capability, requiring 2000 baud.
 - International requirements will increase.
-
- Surprisingly, none of the vendors commented on satellite communications requirements, which were indicated as needs by two of the users interviewed.

V. APPENDIX

V APPENDIX

1. Supplemental User Questionnaire for Suntech for Wholesale
Distribution Study

2. Supplemental Vendor Questionnaire for Suntech for Wholesale
Distribution Study

Catalog No.

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INPUT

SUPPLEMENTAL USER QUESTIONNAIRE FOR SUNTECH
FOR WHOLESALE DISTRIBUTION STUDY
MARCH/APRIL 1977

1. Do you use an automated Order Entry system for the distribution of your products? Yes _____ No _____
 - a. If yes, for all products _____, or selected ones _____?
 - b. If selected ones, which ones (bulk, packaged)?

2. Is the system being operated on an in-house mainframe _____, or a company distributed network _____, or an outside service _____?
 - a. Describe (including computers used, if in-house or network):

 - b. Name of outside services vendor (if used):

3. Did you do a cost benefit analysis of using a mainframe vs a distributed network vs an outside service? Yes _____ No _____

a. Results?

4. Was your choice made on the basis of that cost analysis, or for other reasons?

5. What functions are performed with your Order Entry system?

6. How does your system for Order Entry interface with other accounting systems in the company, such as:

a. Inventory control and general ledger:

b. Accounts receivable:

c. Other:

7. How are freight rates entered (data base, manual, other)?

0 0 1

8. How is routing data entered?

9. Does the buyer control routing when he pays transportation?

Yes _____ No _____

a. How does that affect how routing data is entered (Q8)?

10. How is pricing entered (base, state and federal taxes, volume discounts, etc)?

11. How much does it cost to generate each invoice, shipping document, or bill of lading?

12. Is the cost structure based on transaction pricing _____, or resource pricing (CPU, storage, connect charges) _____?
13. What impact do you believe mini-computers are having, and will have, on the traditional batch and remote batch processing methods employed in the wholesale distribution industry?
14. What do you believe computer service bureaus and remote computing services companies can do to improve their position in servicing the wholesale distribution industry?
15. Do you have _____, or do you expect to have _____, any requirements for a commercial data network? Yes _____ No _____
 - a. When will you require a data network? _____
 - b. What requirements do you expect to have?
16. What is your opinion of the ideal order entry system of the future?

INPUT

SUPPLEMENTAL VENDOR QUESTIONNAIRE FOR SUNTECH
FOR WHOLESALE DISTRIBUTION STUDY
MARCH/APRIL 1977

Catalog No.

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1. Do you believe that a wholesale distribution services vendor should specialize by industry segment? Yes _____ No _____

2. What do you believe will be the network requirements of the future, for this industry (wholesale distribution)?

